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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/025,415  | 12/18/2001  | Johnny D. Shepherd   | 4015-1718           | 4810             |
| 24112   | 7590        | 05/14/2004           | EXAMINER            |                  |
| COATS & BENNETT, PLLC<br>P O BOX 5<br>RALEIGH, NC 27602 |             |                      | CHO, UN C           |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2682                |                  |
| DATE MAILED: 05/14/2004                                 |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/025,415             | SHEPHERD ET AL.     |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Un C Cho               | 2682                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-12 is/are allowed.
- 6) Claim(s) 13-30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 December 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____.   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date 2. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____.                                   |

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The IDS submitted on 12/18/2001 has been considered and recorded in file.

### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13 – 18, 23 and 27 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon et al. (US 6,002,928) in view of Dejmek (US 5,263,175).

Regarding claim 13, Yoon teaches a method of verifying operation of a first transceiver (Fig. 1A, 111) in a cellular base station (Yoon, Col. 2, lines 13 – 25). However, Yoon fails to teach receiving an access request on a control channel associated with the local base station with the first transceiver, receiving

an access request on the control channel associated with the local base station with a second transceiver and verifying that the first transceiver is functional by comparing the access request received by the first transceiver with the access request received by the second transceiver. In contrast, Dejmek teaches the first receiver receiving a transmission, the second receiver receiving the same transmission, the diagnostic circuitry determining that one of the receivers is working properly by comparing the signal strength of the transmission received by each of the receivers to a predetermined threshold (Dejmek, Col. 1, lines 43 – 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Dejmek to Yoon to provide a diagnostic method and apparatus to determine the malfunctioning of a transceiver.

Regarding claim 14, the claim is interpreted and rejected for the same reason as set forth in claim 13.

Regarding claim 15, Yoon as modified by Dejmek teaches generating an alarm if the signal strength measurements of the transmission received by the first and second transceivers do not match within predetermined threshold (Dejmek, Col. 1, lines 54 – 65).

Regarding claim 16, Yoon as modified by Dejmek teaches receiving transmission with the first receiver, measuring the transmission by the first receiver and determining whether the first receiver is functional by comparing the signal strength measurements of the transmission received by the first receiver to

the signal measurements of corresponding transmission received by a second receiver (Dejmek, Col. 1 lines 43 – 65) at the first cellular base station (Yoon, Col. 1, lines 29 – 34).

Regarding claim 17, Yoon as modified by Dejmek teaches each transceiver having a respective tuning frequency (Yoon, Col. 2, lines 21 – 25) and receiving transmission with the first receiver (Dejmek, Col. 1, lines 43 – 45).

Regarding claim 18, Yoon as modified by Dejmek teaches measuring signal strengths of a received transmission (Dejmek, Col. 1, lines 54 – 57).

Regarding claim 23, the claim is interpreted and rejected for the same reason as set forth in claim 15.

Regarding claim 27, Yoon as modified by Dejmek teaches the first transceiver having a respective tuning frequency adapted to listen to a particular frequency, a second transceiver adapted to transmit and receive signals associated with the cellular base station (Yoon, Col. 2, lines 21 – 25) and a diagnostics circuit to verify the operation of the first receiver by comparing signal strength measurements of a signal received by the first and second receivers (Dejmek, Col. 1, lines 54 – 65).

Regarding claim 28, Yoon as modified by Dejmek teaches that the first receiver is adapted to measure the signal strength of the transmission (Dejmek, Col. 1, lines 54 – 65).

Regarding claim 29, Yoon as modified by Dejmek teaches that the diagnostic circuitry generate an alarm if the signal strength measurements of the

signals received by the first and second receivers do not match within a predetermined threshold.

Regarding claim 30, the claim is interpreted and rejected for the same reason as set forth in claim 29.

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Dejmek as applied to claim 16 above, and further in view of Bruin et al. (US 2003/0060209).

Regarding claim 19, Yoon as modified by Dejmek teaches the signal strength measurements of the received transmission. However, Yoon as modified by Dejmek fails to teach determining a carrier to interference ratio based on the signal strength measurements of the signal received. In contrast, Bruin teaches determining carrier to interference based on the signal strength measurements (Bruin, Paragraph 0031, lines 4 – 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Bruin to Yoon and Dejmek to provide a high capacity radio communication network which employs a reuse technique so that the assignment of channels in each cell renders the network interference limited.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Dejmek as applied to claim 16 above, and further in view of Uhlik et al. (US 2003/0026220).

Regarding claim 20, Yoon as modified by Dejmek teaches receiving transmission. However, Yoon as modified by Dejmek fails to teach receiving access requests received on an access channel. In contrast, Uhlik teaches a base station receiving access request on an access channel (Uhlik, Paragraph 0080, lines 1 – 4). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Uhlik to Yoon and Dejmek to provide a system and methods to facilitate the delivery of enhanced data services in a mobile wireless communications environment.

Regarding claim 21, the claim is interpreted and rejected for the same reason as set forth in claim 20.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Dejmek as applied to claim 16 above, and further in view of Yoshimi et al. (US 5,603,093).

Regarding claim 22, Yoon as modified by Dejmek teaches receiving transmission. However, Yoon as modified by Dejmek fails to teach receiving signals for a predetermined period of time. In contrast, Yoshimi teaches that the base station acquires data on the field intensity and the signal quality for a desired period of time (Yoshimi, Col. 3, lines 54 – 58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Yoshimi to Yoon and Dejmek to provide a method that

permits easy, accurate monitoring of the state of co-channel interference even if the mobile radio communication system is in service.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon (US 6,002,928) in view of Uhlik (US 2003/0026220).

Regarding claim 24, Yoon teaches that each transceiver having a respective tuning frequency to receive that particular frequency and generating a first alarm signal upon occurrence of an abnormal state in the respective transceiver (Yoon, Col. 2, lines 13 – 25). However, Yoon fails to teach listening for access requests on an access channel. In contrast, Uhlik teaches receiving access requests on an access channel (Uhlik, Paragraph 0079, lines 4 – 6 and Paragraph 0080, lines 1 – 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Uhlik to Yoon to provide a system and methods to facilitate the delivery of enhanced data services in a mobile wireless communications environment.

9. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoon in view of Uhlik as applied to claim 24 above, and further in view of Yoshimi et al. (US 5,603,093).

Regarding claim 25, Yoon as modified by Uhlik teaches each transceivers having tuning frequency associated with the first base station with first and second transceivers located at the first base station (Yoon, Col. 2, lines 21 – 25).

However, Yoon as modified by Uhlik fails to teach listening for a predetermined period of time. In contrast, Yoshimi teaches that the base station acquires data on the field intensity and the signal quality for a desired period of time (Yoshimi, Col. 3, lines 54 – 58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Yoshimi to Yoon and Dejmek to provide a method that permits easy, accurate monitoring of the state of co-channel interference even if the mobile radio communication system is in service.

Regarding claim 26, Yoon teaches generating a first alarm signal upon occurrence of an abnormal state in the respective transceiver (Yoon, Col. 2, lines 13 – 25). However, Yoon fails to teach that the transceiver listens for a predetermined time period. In contrast, Yoshimi teaches that the base station acquires data on the field intensity and the signal quality for a desired period of time (Yoshimi, Col. 3, lines 54 – 58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Yoshimi to Yoon and Dejmek to provide a method that permits easy, accurate monitoring of the state of co-channel interference even if the mobile radio communication system is in service.

***Allowable Subject Matter***

10. Claims 1 – 12 are allowed.

11. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, Yoon as modified by Dejmek teaches verifying the operation of a first receiver used to perform signal strength measurements; receiving a transmission with the first receiver, measuring signal strength by the first receiver determining whether the first receiver is functional by comparing the signal strength measurements of the transmission received by the first receiver to the transmission received by the second receiver at the first base station. However, Yoon as modified by Dejmek, either alone or combination fails to teach that after verifying that the first transceiver is operational, receiving signals on a second channel associated with a second base station in the remote cell with the first transceiver, measuring the signal strength of the signals received by the first transceiver on the second channel and determining the interference based on the signal strength of the signals received on the second channel.

Regarding claim 6 and 10, the claims are interpreted and allowed for the same reason as set forth in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C Cho whose telephone number is (703)305-8725. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703)308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Un C Cho *5/7/04 uc*  
Examiner  
Art Unit 2682

  
LEE NGUYEN  
PRIMARY EXAMINER